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Use of Information Communication Technologies by Vegetable Growers of Uttarakhand

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Abstract

Uttarakhand is first and foremost an agricultural state and its share in the country's total GDP is very small. More than half per cent of the population of Uttarakhand depend on agriculture for their livelihood. This emphasised the need for innovative approaches for agricultural development in the hilly region of the state. Majority of hill women are engaged in vegetable cultivation. Hill women were suffering from various problems due to lack of knowledge, information and education on various aspects. Thus, dissemination of information and education on various new aspects is necessary to empower the hill women. Present investigation was conducted in four villages viz; *Koan, Baldiyakhan, Devidhura and Aadukhan* of Nainital District of Uttarakhand. Result revealed that majority of respondents fall in middle age and belonged to General caste and can read and write. All the respondents have Mobile phone and television. Majority of respondents take the farming related information from neighbour followed by Input Dealer.

Key words: ICTs, Vegetable Grower, Hill women

In Uttarakhand more than half percent of the population depends on agriculture as the source of revenue and farmers mainly practice subsistence farming. The economy of Uttarakhand is predominantly agrarian. **(Sharma, 2018)**. More than 80 per cent of working population of the state is engaged in agriculture. Difficult topography, adverse climatic surroundings for some crops, inadequate availability of inputs and technology has resulted in low agricultural production when compared to the National average. Vegetable cultivation is one of the important component of agriculture sector of Uttarakhand.

The present era is the age of scientific development in which new information and knowledge comes out every day and it is essential to transmit this knowledge and information to those ultimate users who requires it in shortest period of time. **(Sharma *et.al*, 2018)**. For this purpose, there is a need of effective information related to innovative technologies for vegetable cultivation. Research and Extension are two important aspects of agricultural development.

Today is the era of Information Communication Outburst. Immeasurable information is generated, amalgamated and dispersed every moment. Information technology has revolutionized the transfer of information through new innovative technologies. Information from any part of the world could be made available through Information Communication Technology thereby changing the world into Global village. **(Sharma and Kashyap, 2014)**.

Studies indicate that in hill areas the maximum overall post harvest loss occurs in case in tomato followed by French bean, pea, chilly, cauliflower, onion, potato, cabbage, capsicum, and radish. Further, in case of tomato, onion, pea, potato, radish, capsicum and cabbage, the maximum loss is at the harvesting stage. Maximum losses during handling and transportation stage occur in case of French bean, cauliflower and chilly.

Keeping all these facts in mind, there is an urgent need to develop ICTs strategy for empowerment of hill women in Uttarakhand. Therefore, this is necessary to know the Information Utilization pattern of hill women of Uttarakhand.

Keeping this in mind, present research investigation was conducted with the objectives of: [1] To list five socio-economic characteristics of vegetable grower. [2] To describe ICTs Utilization behaviour of vegetable grower. [3] To study the Information Utilization pattern of vegetable growers.

Review of Literature

According to **Sharma and Kashyap (2014)**, Women in hill area have less access to Information Communication Technologies through which they get information on farming and other issues. Information on improved farming techniques can improve farm income and household sustainability. **Sharma et. al. (2018)** reported that role of ICTs is important for women well being because it improve the status of women in different sectors. In rural India now a day rural people are less accessible to modern Information Communication tools. **Kameswari et. al. (2018)** reported that role of ICTs in context of Agriculture is very crucial. ICTs are capable of empowering farmers with recent, need based and demand-driven agricultural information. Sharma and Singh (2018) revealed that *Kishan Gosthi* is an effective way to empower farming community. Findings revealed that effectiveness of *Kishan gosthi* was positive in term of gain in knowledge. After *Kishan Gosthi* rural women were aware about many aspects related to Agriculture, Dairy, Health and Sanitation. **Sharma and Singh in 2016** reported that Information unevenness on the farm level has been recognized as one of the main reasons for low agriculture production. Access to precise, appropriate and consistent information to the rural people plays an important role in the adoption of appropriate agriculture technology.

Research Methodology

The study was conducted on a total 50 respondents during 2017-18 in four villages viz; *Kaon, Adukhan and baldiyakhan, Devidhura* of Bhimtal block in Nainital District of Uttarakhand. The sample consisted only hill women of 20-45 year age group. The study was descriptive in nature and the sample was selected by PPS sampling method. Out of 200 hill women 50 women were selected for investigation. The independent variable selected were classifies as age, education, caste, land holding, ownership of ICTs, Use of mobile phone, Information Utilization, Storing and dissemination behaviour. The data was collected by using Semi-structured interview schedule. Frequency, percentage and mea were calculated for all the variables.

Results and Discussions

Socio-economic characteristics of Vegetable Grower

Table 1 depicted the results of socio-economic characteristics of Vegetable Grower:

Age: More than half per cent of the vegetable growers (52 per cent) fall in middle age group category followed by young age group (35 per cent) and old age (13 per cent). The findings are in conformity with the finding of **Sharma and Kameswari (2017)** that majority of farming community belonged to middle age group category.

Caste: Table 1 exhibits the distribution of vegetable growers according to their caste. The data shows that majority of the respondents (54 per cent) were belonged to General caste category followed by Schedule Caste and Schedule Tribe category (34 per cent) and Other Backward (12 per cent) respectively. The present investigation findings are in conformity with the findings of **Sharma and Rathore (2013)** that most of the respondents belonged to General caste as Brahmin, Takhur and Kaistha.

Education: The data existing in Table 1 indicated that about 32 per cent of vegetable growers fall under can read and write education category followed by Illiterate category (10 per cent). Total 25 per cent respondents were educated upto primary level followed by High School (21 per cent). Only 12 per cent of vegetable growers were having education upto Intermediate level.

Land holding: The data presented in table 1 indicate that majority of vegetable growers (70 per cent) belonged to middle group of land holding, followed by low land holding category (21 per cent). Only 9 per cent vegetable growers belonged to high land holding category. The findings are in conformity with the finding of **Sharma et. al. (2012)** that majority of respondents have medium land holding.

Soil Health Card: All the vegetable growers have no soil health cards.

Aadhar Card: More than half per cent of vegetable growers (68 per cent) have no Aadhar Card.

Table 1: Socio-Economic characteristics of vegetable growers

Sl.No.	Category	Respondents (Per Centage)
1.	Age	
	Young (20-25)	35
	Middle (25-35)	52
	Old (35-45)	13
2.	Caste	
	General	54
	Other Backward	12
	Schedule Caste and Schedule Tribe	34
3.	Education	
	Can Read and Write	32
	Illiterate	10
	Primary level	25
	High school	21
	Intermediate	12
4.	Size of land holding (nali)	
	Low (>3 cultivable land)	21
	Middle (3-7 cultivable land)	70
	High (7< cultivable land)	9
5.	Soil Health Card	
	Yes	0
	No	100
6.	Aadhar Card	
	Yes	32
	No	68

ICTs Utilization behaviour of Vegetable grower

The results of the study on ICTs Utilization behaviour of Vegetable Grower are depicted in Table 2.

Table 2: ICTs Utilization behaviour of Vegetable grower

Sl No.	Category	Respondents (Per Centage)
1.	Ownership of ICTs	
a.	Mobile Phone	100
b.	Television	100
c.	Computer	5
d.	Newspaper	31
2.	Use of Mobile Phone	
1.	Brand	
a.	Lava Z6	12
b.	Samsung	22
c.	Xiaomi	5
d.	Micromax	24
e.	Nokia	41
f.	Vivo	4
2.	Sim	
a.	Jio	25
b.	BSNL	21
c.	Airtel	23
d.	Idea	19
e.	Vodafone	15
4.	Useful Apps	
a.	Yes	27
b.	No	93

Ownership of ICTs: All the respondents have Mobile phone and television. Less than half per cent of respondents read newspaper followed by Computer (5 per cent). Result revealed that all the respondents used mobile phone. The findings were in concurrence with **Sharma and Hasan (2012)** that all the respondents have Mobile phone and television.

Use of Mobile Phone: (a) Brand: Most of respondents were using Nokia brand followed by Micromax (24 per cent) and Samsung (22 per cent). Only 12 per cent respondents were using Lava Z6 and Xiaomi (5 per cent) and Vivo (4 per cent). **(b) Sim:** Only 25 per cent respondents were using Jio sim followed by Airtel (23 per cent) and BSNL (21 per cent). Only 19 per cent students were using Idea sim followed by Vodafone (15 per cent). **(c) Useful Apps:** Maximum 93 per cent respondents have no mobile app. The above observations were similar to the findings reported by **Rathore and Sharma (2012)**.

Information Utilization pattern of vegetable growers

Source of Farm Information: Majority of respondents (98 per cent) take the farming related information from neighbour followed by Input Dealer. More than half per cent of respondents (87 per cent) take the information from Progressive Farmers followed by Horticulture Shop, Baldiakhan (12 per cent). Total 43 per cent respondents reported that they were viewing television (43 per cent) followed by Newspaper (38 per cent) for taking information related to farming.

Information Processing behaviour: Total 19 per cent respondents reported that they discuss farming related information with fellow farmers. Less than half per cent of the respondents consider its technical feasibility. Total 8 per cent respondents reported that they discuss farming related information with specialists. Similar results were reported by **Sharma and Singh (2018)**.

Information Storing behaviour: Majority of respondents (87 per cent) reported that they store the behaviour by memorizing followed by making note book (43 per cent). Total 17 per

cent respondents reported that they preserve newspaper cutting and publication related to farming.

Information Dissemination Behaviour: Total 86 per cent respondents disseminate the information in Group Meeting followed by Telephone Calls (34 per cent). Total 22 per cent respondents disseminate the information through Informal Chat. Total 13 per cent respondents disseminate the information through letter and 9 per cent respondents disseminate the information through Whatsapp. The similar study was reported by **Sharma (2016)** that majority of respondents disseminate information among the group meeting, through mobile phones and through different social media websites.

Table 3: Information Utilization pattern of vegetable growers

Source of Farm Information	Respondents (Per Centage)
Friend	92
Neighbour	98
Input Dealer	95
Progressive Farmers	87
Horticulture Shop, Baldiakhan	12
Television	43
Newspaper	38
Information Processing behaviour	
Discussion with fellow farmers	19
Cross check	7
Consider its technical feasibility	15
Discussion with specialists	8
Information Storing behaviour	
By memorizing	87
Making note book	43

Preserving newspaper cutting and publication	17
Information Dissemination Behaviour	
Telephone Calls	34
Demonstration	12
Informal Chat	22
Group Meeting	86
Through Letter	13
Through Whatsapp	9

Conclusion

Information means knowledge dissemination, communication or received concerning a particular fact or circumstance. **(Samansiri and Wanigasundera 2014)**. Information dissemination without its distortion to large number of clients is essential. Information and Communication Technology (ICT) is the combination of telecommunications.

Majority of respondents fall in middle age group category followed by young age group. They were from General caste category followed by Schedule Caste and Schedule Tribe category. They can read and write education category followed by Illiterate category. Majority of vegetable growers belonged to middle group of land holding followed by low land holding category. All the vegetable growers have no soil health cards. More than half per cent of vegetable growers have no Aadhar Card. All the respondents have Mobile phone and television. Most of respondents were using Nokia brand followed by Micromax. Majority of respondents take the farming related information from neighbour followed by Input Dealer. Less than half per cent of the respondents consider its technical feasibility. Majority of respondents reported that they store the behaviour by memorizing followed by making note book. Majority of respondents disseminate the information in Group Meeting followed by Telephone Calls.

Implication of study:

This study will be useful all media personnel to design the media strategy for the vegetable grower. This study will be useful for researchers to design Information Communication module for the farmers.

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